



SKILLSHEET 13.3

Rounding to a given number of decimal places

To round a decimal to a given number of decimal places, follow these steps.

Step 1 Count out the required number of decimal places and consider the next digit. That is, if required to round to 1 decimal place, consider the digit in the second decimal place; if required to round to 2 decimal places, consider the digit in the third decimal place and so on.

Step 2 If it is *less than 5*, simply omit this digit and all digits that follow.

Step 3 If it is *5 or larger*, add 1 to the preceding digit and omit all digits that follow.

WORKED EXAMPLE 1

Round each of the following numbers to the number of decimal places shown in brackets.

a 2.371 [1]

b 8.7234 [2]

THINK

a Count out 1 decimal place. The next digit (the digit in the second decimal place) is 7, which is greater than 5. So add 1 to the preceding digit (that is, to 3) and omit all digits that follow.

b Count out 2 decimal places. The next digit (the digit in the third decimal place) is 3, which is less than 5. So simply omit this digit and all digits that follow (that is, omit 3 and 4).

WRITE

a $2.371 \approx 2.4$

b $8.7234 \approx 8.72$

Note: The sign \approx is read as 'is approximately equal to'.

WORKED EXAMPLE 2

Evaluate $\sqrt{32}$ correct to 1 decimal place.

THINK

1 Evaluate $\sqrt{32}$ using a calculator and record the number shown on the display.

2 Count out 1 decimal place. The next digit (the digit in the second decimal place) is 5, so add 1 to the preceding digit and omit all digits after the first decimal place.

WRITE

$\sqrt{32} = 5.656\ 854\ 249$

≈ 5.7



Try these

1 Round each of the following numbers to the number of decimal places shown in brackets.

a 8.47 [1]

b 0.77 [1]

c 1.204 [1]

d 0.569 [2]

e 0.903 [2]

f 7.235 [2]

g 0.5502 [3]

h 0.2978 [3]

i 2.3004 [3]

j 0.594 55 [4]

2 Evaluate each of the following correct to 1 decimal place.

a $\sqrt{8} =$

b $\sqrt{29} =$

c $\sqrt{30} =$

\approx

\approx

\approx

d $\sqrt{52} =$

e $\sqrt{68} =$

\approx

\approx

SKILLSHEET — ANSWERS

SKILLSHEET 13.3

Rounding to a given number of decimal places

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|----------------|----------------|----------------|----------------|-----------------|
| 1 a 8.5 | b 0.8 | c 1.2 | d 0.57 | e 0.90 |
| f 7.24 | g 0.550 | h 0.298 | i 2.300 | j 0.5946 |
| 2 a 2.8 | b 5.4 | c 5.5 | d 7.2 | e 8.2 |